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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/716,873	Applicant(s) MANU ET AL.	
	Examiner Joel Stoffregen	Art Unit 2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on 01 August 2007.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-36 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-36 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 01 August 2007 is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Response to Amendment

2. The applicant amended the drawings. The previous objection to the drawings is withdrawn. Claims 1-36 are currently pending in the application.

Response to Arguments

3. Applicant's arguments filed 08/01/2007 have been fully considered but they are not persuasive.

The applicant argued that the teaching of Hartung (5,309,232) is not compatible with Holmes (*Speech Synthesis and Recognition*) because they are unrelated in their functions and have no motivation to combine (see p. 4 of applicant's remarks). The examiner respectfully disagrees. Both references are related to image processing. Holmes creates a spectrogram image, and Hartung encodes data contained in an image. Hartung is not specific as to what kinds of images are encoded, so there is sufficient motivation to combine the references, as cited in the rejections below. Furthermore, the process of converting an audio signal into a spectrogram is a form of encoding, as the original audio signal is no longer represented by the same values.

The applicant further argued that the spectrogram of Holmes does not read on "a time-frequency band table" (see p. 4 of applicant's remarks). The examiner respectfully

disagrees. The spectrogram is merely a way of representing data graphically. Each pixel of the spectrogram corresponds to an energy value at a specific time and frequency. If one were to display the raw data value of each pixel, as opposed to a color or brightness gradient, then a time-frequency table would result. This is the same table that is contained in a computer that processes the spectrogram. The examiner contends that the time-frequency table is inherent in a spectrogram image.

The applicant further argued that the conditional replenishment of Hartung does not read on "searching for nearest neighbor block of a block being currently encoded, and generating information on the nearest neighbor block" (see p. 5 of applicant's remarks). The examiner respectfully disagrees. While Hartung does teach adaptive bit allocation based on perceptual criteria of the human visual system, the conditional replenishment is not dependent on it. The conditional replenishment simply operates on whatever value is contained in each pixel, no matter how that value was obtained. Additionally, equation [1] of Hartung does calculate the Euclidian distance between two blocks. Abs[x(i,j,t) – x(i,j,t-1)] is a measure of the Euclidian distance between the two x values. If that value is less than a threshold, then a previous block is repeated. This repeated block is a nearest neighbor block, as it must have a value close to the current block. Also, the comparison of the two values in equation [1] constitutes a search, as the older value must be found and loaded into the equation.

Claim Rejections - 35 USC § 103

4. **Claims 1, 3-5, 7-12, 14, 16-22, 24, 26-28, 30, 31, and 33-36** rejected under 35 U.S.C. 103(a) as being unpatentable over HARTUNG et al. (Patent No. US 5,309,232) in view of HOLMES et al. (*Speech Synthesis and Recognition*).

5. Regarding **claim 1**, HARTUNG teaches an encoding method comprising:

(b) searching for a nearest neighbor block of a block being currently encoded (see column 3, lines 33-60, equation 1), and generating information on the nearest neighbor block ("side information indicating which pixels are repeated from the previous frame", column 3, lines 62-64); and

(c) generating a bitstream containing the generated information on the nearest neighbor block ("multiplexed onto communication channel 345 for transmission to a decoder", column 4, lines 8-9).

However, HARTUNG does not disclose that the method is performed on an audio signal.

In the same field of media analysis, HOLMES discloses an audio signal that is used to create an image. HOLMES teaches a digital audio signal encoding method ("generating spectrograms", p. 23, paragraph 2) comprising:

(a) based on the input audio signal, generating a time-frequency band table (see Figure 2.11, "use the horizontal dimension for time, the vertical dimension for frequency", p. 23, paragraph 1).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use the image encoding method of HARTUNG on the spectrogram of HOLMES, where each pixel of the spectrogram corresponds to the energy of the audio signal at single time and frequency, and a small column of pixels corresponds to the energy in a subband at a single time. This would have been done in order to more efficiently encode the spectrogram by taking advantage of the temporal correlations within the subbands (see HARTUNG, column 3, lines 9-12).

6. Regarding **claim 3**, HARTUNG and HOLMES further teach that the nearest neighbor block information is index information of the nearest neighbor block, which is searched for, in the time-frequency band table ("side information indicating which pixels are repeated from the previous frame", HARTUNG, column 3, lines 62-64, where the previous frame has an index at i,j, and t, see equation 1).

7. Regarding **claim 4**, HARTUNG further teaches that in step (b) a search scope of the nearest neighbor block includes blocks previous to the block being currently encoded (see equation 1, x(i,j,t) occurs before x(i,j,t-1)).

8. Regarding **claim 5**, HARTUNG further teaches that in step (b) determination of the nearest neighbor block is based on the Euclidian distance between the current block and an object block (see equation 1, |x(i,j,t) – x(i,j,t-1)| is the distance between x(i,j,t) and x(i,j,t-1)).

9. Regarding **claim 7**, HARTUNG teaches an encoding method comprising:

(b) searching for a nearest neighbor block of a block being currently encoded (see column 3, lines 33-60, equation 1);

(c) based on the nearest neighbor block searched for, determining whether or not a block being currently encoded is a redundant block (see column 3, lines 33-60, equation 1); and

(d) based on the result determined in step (c), generating an output bitstream ("multiplexed onto communication channel 345 for transmission to a decoder", column 4, lines 8-9).

However, HARTUNG does not disclose that the method is performed on an audio signal.

In the same field of media analysis, HOLMES discloses an audio signal that is used to create an image. HOLMES teaches a digital audio signal encoding method ("generating spectrograms", p. 23, paragraph 2) comprising:

(a) based on the input audio signal, generating a time-frequency band table (see Figure 2.11, "use the horizontal dimension for time, the vertical dimension for frequency", p. 23, paragraph 1).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use the image encoding method of HARTUNG on the spectrogram of HOLMES, where each pixel of the spectrogram corresponds to the energy of the audio signal at single time and frequency, and a small column of pixels

corresponds to the energy in a subband at a single time. This would have been done in order to more efficiently encode the spectrogram by taking advantage of the temporal correlations within the subbands (see HARTUNG, column 3, lines 9-12).

10. Regarding **claim 8**, HARTUNG further teaches that if it is determined in step (c) that the block being currently encoded is the redundant block, the bitstream generated in step (c) includes nearest neighbor block information on the nearest neighbor block searched for in step (b), instead of current block information ("side information indicating which pixels are repeated from the previous frame", column 3, lines 62-64).

11. Regarding **claim 9**, HARTUNG and HOLMES further teach that the nearest neighbor block information is index information of the nearest neighbor block, which is searched for in the time-frequency band table ("side information indicating which pixels are repeated from the previous frame", HARTUNG, column 3, lines 62-64, where the previous frame has an index at i,j, and t, see equation 1).

12. Regarding **claim 10**, HARTUNG further teaches that if it is determined in step (c) that the block being currently encoded is not the redundant block, the bitstream generated in step (d) includes current block information (see equation 1, the current x is used if the distance is less than the threshold).

13. Regarding **claim 11**, HARTUNG further teaches that in step (b) a search scope of the nearest neighbor block includes blocks previous to the block being currently encoded (see equation 1, x(i,j,t) occurs before x(i,j,t-1)).

14. Regarding **claim 12**, HARTUNG further teaches that in step (b) determination of the nearest neighbor block is based on the Euclidian distance between the current block and an object block (see equation 1, |x(i,j,t) – x(i,j,t-1)| is the distance between x(i,j,t) and x(i,j,t-1)).

15. Regarding **claim 14**, HARTUNG teaches an encoding apparatus comprising:

a nearest neighbor block searching and nearest neighbor block information generation unit which searches for a nearest neighbor block of a block being currently encoded (see column 3, lines 33-60, equation 1), and generates information on the nearest neighbor block ("side information indicating which pixels are repeated from the previous frame", column 3, lines 62-64); and

a bitstream packing unit which generates a bitstream containing the generated information on the nearest neighbor block ("multiplexed onto communication channel 345 for transmission to a decoder", column 4, lines 8-9).

However, HARTUNG does not disclose that the apparatus encodes an audio signal.

In the same field of media analysis, HOLMES discloses an audio signal that is used to create an image. HOLMES teaches a digital audio signal encoding apparatus ("generating spectrograms", p. 23, paragraph 2) comprising:

a time-frequency band table generation unit which, based on an input audio signal, generates a time-frequency band table (see Figure 2.11, "use the horizontal dimension for time, the vertical dimension for frequency", p. 23, paragraph 1).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use the image encoding apparatus of HARTUNG on the spectrogram of HOLMES, where each pixel of the spectrogram corresponds to the energy of the audio signal at single time and frequency, and a small column of pixels corresponds to the energy in a subband at a single time. This would have been done in order to more efficiently encode the spectrogram by taking advantage of the temporal correlations within the subbands (see HARTUNG, column 3, lines 9-12).

16. Regarding **claim 16**, HARTUNG and HOLMES further teaches that the nearest neighbor block information is index information of the nearest neighbor block, which is searched for in the time-frequency band table ("side information indicating which pixels are repeated from the previous frame", HARTUNG, column 3, lines 62-64, where the previous frame has an index at i,j, and t, see equation 1).

17. Regarding **claim 17**, HARTUNG teaches an encoding apparatus comprising:

a nearest neighbor block searching unit which searches for a nearest neighbor block of a block being currently encoded (see column 3, lines 33-60, equation 1);

a redundant block decision unit which, based on the nearest neighbor block, determines whether or not the block being currently encoded is a redundant block (see column 3, lines 33-60, equation 1); and

a bitstream packing unit which, based on the result determined in the redundant block decision unit, generates an output bitstream ("multiplexed onto communication channel 345 for transmission to a decoder", column 4, lines 8-9).

However, HARTUNG does not disclose that the apparatus encodes an audio signal.

In the same field of media analysis, HOLMES discloses an audio signal that is used to create an image. HOLMES teaches a digital audio signal encoding apparatus ("generating spectrograms", p. 23, paragraph 2) comprising:

a time-frequency band table generation unit which, based on an input audio signal, generates a time-frequency band table (see Figure 2.11, "use the horizontal dimension for time, the vertical dimension for frequency", p. 23, paragraph 1).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use the image encoding apparatus of HARTUNG on the spectrogram of HOLMES, where each pixel of the spectrogram corresponds to the energy of the audio signal at single time and frequency, and a small column of pixels corresponds to the energy in a subband at a single time. This would have been done in

order to more efficiently encode the spectrogram by taking advantage of the temporal correlations within the subbands (see HARTUNG, column 3, lines 9-12).

18. Regarding **claim 18**, HARTUNG further teaches that if the redundant block decision unit determines that the block being currently encoded is the redundant block, the bitstream generation unit includes information on the nearest neighbor block which is searched for in the nearest neighbor block searching unit, in the output bitstream instead of current block information ("side information indicating which pixels are repeated from the previous frame", column 3, lines 62-64).

19. Regarding **claim 19**, HARTUNG further teaches that if the redundant decision unit determines that the block being currently encoded is not the redundant block, the bitstream generation unit includes the current block information in the output bitstream (see equation 1, the current x is used if the distance is less than the threshold).

20. Regarding **claim 20**, HARTUNG and HOLMES further teach that the nearest neighbor block information is index information of the nearest neighbor block, which is searched for in the time-frequency band table ("side information indicating which pixels are repeated from the previous frame", HARTUNG, column 3, lines 62-64, where the previous frame has an index at i,j, and t, see equation 1).

21. Regarding **claim 21**, HARTUNG teaches a decoding method ("decoder", column 5, line 31) for decoding a signal containing additional information ("side information", column 5, line 33) on a predetermined region of the signal ("remaining subbands", column 3, lines 7-10), comprising:

(a) decoding a block which is not included in the predetermined region ("determine which areas of the subbands... have been zeroed out", column 5, lines 34-38), from an input bitstream ("coded signals", column 5, line 32);

(b) based on the decoded block data, generating an image corresponding to the predetermined region ("performs the operations of the subband analysis unit 300 in reverse to reconstruct the images", column 5, lines 42-43); and

(c) reconstructing a current block included in the predetermined region ("determine which areas of the subbands have been repeated from the previously encoded subband", column 5, lines 34-36), based on the additional information ("side information", column 5, line 33) on the predetermined region of the signal ("remaining subbands", column 3, lines 7-10).

However HARTUNG does not disclose that decoding is done on an audio signal or that the image is a time-frequency band table.

In the same field of media analysis, HOLMES discloses an image that represents an audio signal. HOLMES teaches a time-frequency band table ("spectrogram", see Figure 2.11).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use the image decoding method of HARTUNG on the

spectrogram of HOLMES, where each pixel of the spectrogram corresponds to the energy of the audio signal at single time and frequency, and a small column of pixels corresponds to the energy in a subband at a single time. This would have been done in order to more efficiently decode the spectrogram by taking advantage of the temporal correlations within the subbands (see HARTUNG, column 3, lines 9-12).

22. Regarding **claim 22**, HARTUNG further teaches that the additional information includes index information on a nearest neighbor block of a current block in the predetermined region ("side information indicating which pixels are repeated from the previous frame", column 3, lines 62-64, where the previous frame has an index at i,j, and t, see equation 1).

23. Regarding **claim 24**, HARTUNG and HOLMES further teach the time-frequency band table generated in step (b) is updated by the current block reconstructed in step (c) ("determine which areas of the subbands have been repeated from the previously encoded subband", HARTUNG, column 5, lines 34-36, using the repeated subbands to generate the image is inherent).

24. Regarding **claim 26**, HARTUNG teaches a decoding method ("decoder", column 5, line 31) for decoding a signal comprising:

(a) extracting nearest neighbor block information ("side information", column 5, line 33) from an input bitstream ("coded signals", column 5, line 32);

(b) based on the bitstream, generating an image ("performs the operations of the subband analysis unit 300 in reverse to reconstruct the images", column 5, lines 42-43);

(c) based on the extracted nearest neighbor block information, determining whether or not a block being currently decoded is a redundant block ("determine which areas of the subbands have been repeated from the previously encoded subband", column 5, lines 34-36); and

(d) if the block being currently decoded is the redundant block, reconstructing the redundant block ("determine which areas of the subbands have been repeated from the previously encoded subband", column 5, lines 34-36) based on the extracted nearest neighbor block information ("side information", column 5, line 33).

However HARTUNG does not disclose that decoding is done on an audio signal or that the image is a time-frequency band table.

In the same field of media analysis, HOLMES discloses an image that represents an audio signal. HOLMES teaches a time-frequency band table ("spectrogram", see Figure 2.11).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use the image decoding method of HARTUNG on the spectrogram of HOLMES, where each pixel of the spectrogram corresponds to the energy of the audio signal at single time and frequency, and a small column of pixels corresponds to the energy in a subband at a single time. This would have been done in order to more efficiently decode the spectrogram by taking advantage of the temporal correlations within the subbands (see HARTUNG, column 3, lines 9-12).

25. Regarding **claim 27**, HARTUNG and HOLMES further teach reconstructing an entire spectrum corresponding to the input audio bitstream by using the reconstructed redundant block ("performs the operations of the subband analysis unit 300 in reverse to reconstruct the images", HARTUNG, column 5, lines 42-43, where the image is a complete spectrogram according to HOLMES, the spectrogram representing the entire spectrum of an audio signal, see HOLMES, Figure 2.11).

26. Regarding **claim 28**, HARTUNG and HOLMES further teach that step (c) further comprises:

updating the time-frequency band table based on the reconstructed redundant block ("determine which areas of the subbands have been repeated from the previously encoded subband", HARTUNG, column 5, lines 34-36, using the repeated subbands to generate the image is inherent).

27. Regarding **claim 30**, HARTUNG teaches a decoding apparatus ("decoder", column 5, line 31) for decoding a signal containing additional information ("side information", column 5, line 33) on a predetermined region of the signal ("remaining subbands", column 3, lines 7-10) comprising:

a decoding unit which decodes a block which is not included in the predetermined region ("determine which areas of the subbands... have been zeroed

out", column 5, lines 34-38), from an input bitstream ("coded signals", column 5, line 32); and

a post-processing unit which, based on the decoded block data, generates an image corresponding to the predetermined region ("performs the operations of the subband analysis unit 300 in reverse to reconstruct the images", column 5, lines 42-43), and reconstructs a current block included in the predetermined region ("determine which areas of the subbands have been repeated from the previously encoded subband", column 5, lines 34-36), based on the additional information ("side information", column 5, line 33) on the predetermined region of the signal ("remaining subbands", column 3, lines 7-10).

However HARTUNG does not disclose that decoding is done on an audio signal or that the image is a time-frequency band table.

In the same field of media analysis, HOLMES discloses an image that represents an audio signal. HOLMES teaches a time-frequency band table ("spectrogram", see Figure 2.11).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use the image decoding method of HARTUNG on the spectrogram of HOLMES, where each pixel of the spectrogram corresponds to the energy of the audio signal at single time and frequency, and a small column of pixels corresponds to the energy in a subband at a single time. This would have been done in order to more efficiently decode the spectrogram by taking advantage of the temporal correlations within the subbands (see HARTUNG, column 3, lines 9-12).

28. Regarding **claim 31**, HARTUNG further teaches that the additional information includes index information on a nearest neighbor block of a current block in the predetermined region ("side information indicating which pixels are repeated from the previous frame", column 3, lines 62-64, where the previous frame has an index at i,j, and t, see equation 1).

29. Regarding **claim 33**, HARTUNG and HOLMES further teach that the generated time-frequency band table is updated by a reconstructed current block ("determine which areas of the subbands have been repeated from the previously encoded subband", HARTUNG, column 5, lines 34-36, using the repeated subbands to generate the image is inherent).

30. Regarding **claim 34**, HARTUNG teaches a decoding apparatus ("decoder", column 5, line 31) for decoding a signal comprising:

a nearest neighbor block information extracting unit which extracts nearest neighbor block information ("side information", column 5, line 33) from an input bitstream ("coded signals", column 5, line 32);

an image generation unit which, based on the input bitstream, generates an image ("performs the operations of the subband analysis unit 300 in reverse to reconstruct the images", column 5, lines 42-43); and

a redundant block reconstruction unit which, based on the extracted nearest neighbor block information, determines whether or not a block being currently decoded is a redundant block ("determine which areas of the subbands have been repeated from the previously encoded subband", column 5, lines 34-36), and if the block being currently decoded is the redundant block, the redundant block reconstruction unit reconstructs the redundant block ("determine which areas of the subbands have been repeated from the previously encoded subband", column 5, lines 34-36) based on the extracted nearest neighbor block information ("side information", column 5, line 33).

However HARTUNG does not disclose that decoding is done on an audio signal or that the image is a time-frequency band table.

In the same field of media analysis, HOLMES discloses an image that represents an audio signal. HOLMES teaches a time-frequency band table ("spectrogram", see Figure 2.11).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use the image decoding method of HARTUNG on the spectrogram of HOLMES, where each pixel of the spectrogram corresponds to the energy of the audio signal at single time and frequency, and a small column of pixels corresponds to the energy in a subband at a single time. This would have been done in order to more efficiently decode the spectrogram by taking advantage of the temporal correlations within the subbands (see HARTUNG, column 3, lines 9-12).

31. Regarding **claim 35**, HARTUNG and HOLMES further teach that the redundant block reconstruction unit reconstructs an entire spectrum corresponding to the input audio bitstream by using the reconstructed redundant block ("performs the operations of the subband analysis unit 300 in reverse to reconstruct the images", HARTUNG, column 5, lines 42-43, where the image is a complete spectrogram according to HOLMES, the spectrogram representing the entire spectrum of an audio signal, see HOLMES, Figure 2.11).

32. Regarding **claim 36**, HARTUNG and HOLMES further teach that the time-frequency band table generation unit updates the time-frequency band table based on the reconstructed redundant block ("determine which areas of the subbands have been repeated from the previously encoded subband", HARTUNG, column 5, lines 34-36, using the repeated subbands to generate the image is inherent).

33. **Claims 2, 15, 23, and 32** rejected under 35 U.S.C. 103(a) as being unpatentable over HARTUNG et al. (Patent No. US 5,309,232) in view of HOLMES et al. (*Speech Synthesis and Recognition*) in further view of NAKAMURA (Patent No.: US 6,226,325).

34. Regarding **claim 2**, HARTUNG and HOLMES teach all of the claimed limitations of claim 1.

However, HARTUNG and HOLMES do not disclose the frequency of the encoded blocks.

In the same field of media analysis, NAKAMURA discloses the compression of high-frequency content. NAKAMURA teaches that the frequency of a block being currently encoded is equal to or greater than a threshold frequency (see FIG. 1A, the high frequency signal is encoded separately), and that the bitstream includes block information on a block included in a frequency band lower than the threshold frequency (see FIG. 1A, the output bitstream contains both high and low frequency information) and nearest neighbor block information of a block included in a frequency band equal to or higher than the threshold frequency (see FIG. 1A, only the high frequency portion of the signal is compressed).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to perform the encoding method of HARTUNG and HOLMES on the high frequency portion of signal as taught by NAKAMURA in order to reduce the number of bits required for storage (see NAKAMURA, column 3, lines 45-49).

35. Regarding **claim 15**, HARTUNG and HOLMES teach all of the claimed limitations of claim 14.

However, HARTUNG and HOLMES do not disclose the frequency of the encoded blocks.

In the same field of media analysis, NAKAMURA discloses the compression of high-frequency content. NAKAMURA teaches that the frequency of a block being currently encoded is equal to or greater than a threshold frequency (see FIG. 1A, the high frequency signal is encoded separately), and that the bitstream includes block

information on a block included in a frequency band lower than the threshold frequency (see FIG. 1A, the output bitstream contains both high and low frequency information) and nearest neighbor block information of a block included in a frequency band equal to or higher than the threshold frequency (see FIG. 1A, only the high frequency portion of the signal is compressed).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use the encoding apparatus of HARTUNG and HOLMES on the high frequency portion of signal as taught by NAKAMURA in order to reduce the number of bits required for storage (see NAKAMURA, column 3, lines 45-49).

36. Regarding **claim 23**, HARTUNG and HOLMES teach all of the claimed limitations of claim 21.

However, HARTUNG and HOLMES do not disclose the frequency of the decoded blocks.

In the same field of media analysis, NAKAMURA discloses the compression of high-frequency content. NAKAMURA teaches that the predetermined region is a high frequency region (see FIG. 1B, only the high frequency portion of the signal is decoded).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to perform the decoding method of HARTUNG and HOLMES on the high frequency portion of signal as taught by NAKAMURA in order to reduce the number of bits required for storage (see NAKAMURA, column 3, lines 45-49).

37. Regarding **claim 32**, HARTUNG and HOLMES teach all of the claimed limitations of claim 30.

However, HARTUNG and HOLMES do not disclose the frequency of the decoded blocks.

In the same field of media analysis, NAKAMURA discloses the compression of high-frequency content. NAKAMURA teaches that the predetermined region is a high frequency region (see FIG. 1B, only the high frequency portion of the signal is decoded).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use the decoding appartatus of HARTUNG and HOLMES on the high frequency portion of signal as taught by NAKAMURA in order to reduce the number of bits required for storage (see NAKAMURA, column 3, lines 45-49).

38. **Claims 6, 13, 25, and 29** rejected under 35 U.S.C. 103(a) as being unpatentable over HARTUNG et al. (Patent No. US 5,309,232) in view of HOLMES et al. (*Speech Synthesis and Recognition*) in further view of ZIBMAN et al. (Patent No.: US 4,748,579).

39. Regarding **claim 6**, HARTUNG and HOLMES teach all of the claimed limitations of claim 1.

However, HARTUNG and HOLMES do not disclose the use of scale factors.

In the same field of media analysis, ZIBMAN discloses using scale factors to represent frequency data. ZIBMAN teaches that the nearest neighbor block information includes scale factor information ("computing the scale factor", column 7, line 29).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to represent the encoded information of HARTUNG and HOLMES using scale factors as taught by ZIBMAN in order scale the numbers to a certain number of bits (see ZIBMAN, column 7, lines 27-58).

40. Regarding **claim 13**, HARTUNG and HOLMES teach all of the claimed limitations of claim 7.

However, HARTUNG and HOLMES do not disclose the use of scale factors.

In the same field of media analysis, ZIBMAN discloses using scale factors to represent frequency data. ZIBMAN teaches that the nearest neighbor block information includes scale factor information ("computing the scale factor", column 7, line 29).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to represent the encoded information of HARTUNG and HOLMES using scale factors as taught by ZIBMAN in order scale the numbers to a certain number of bits (see ZIBMAN, column 7, lines 27-58).

41. Regarding **claim 25**, HARTUNG and HOLMES teach all of the claimed limitations of claim 21.

However, HARTUNG and HOLMES do not disclose the use of scale factors.

In the same field of media analysis, ZIBMAN discloses using scale factors to represent frequency data. ZIBMAN teaches that the additional information includes scale factor information ("computing the scale factor", column 7, line 29).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to represent the encoded information of HARTUNG and HOLMES using scale factors as taught by ZIBMAN in order scale the numbers to a certain number of bits (see ZIBMAN, column 7, lines 27-58).

42. Regarding **claim 29**, HARTUNG and HOLMES teach all of the claimed limitations of claim 27.

However, HARTUNG and HOLMES do not disclose the use of scale factors.

In the same field of media analysis, ZIBMAN discloses using scale factors to represent frequency data. ZIBMAN teaches that the nearest neighbor block information includes scale factor information ("computing the scale factor", column 7, line 29).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to represent the encoded information of HARTUNG and HOLMES using scale factors as taught by ZIBMAN in order scale the numbers to a certain number of bits (see ZIBMAN, column 7, lines 27-58).

Conclusion

43. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joel Stoffregen whose telephone number is (571) 270-1454. The examiner can normally be reached on Monday - Friday, 9:00 a.m. - 6:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Edouard can be reached on (571) 272-7603. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JS

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